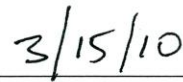# Computing Sciences Directorate

FY10 ES&H
Self-Assessment Plan

Approved By:

_____   _____
Horst Simon, Associate Laboratory Director   March 15, 2010

(this page intentionally blank)

1.0   Introduction

The Computing Sciences Directorate (CS) and its Divisions, the Computational Research Division (CRD) and the National Energy Research Scientific Computing Center (NERSC) Division, will evaluate the effectiveness of ES&H hazard controls (administrative, engineering, etc.) and compliance with institutional and divisional requirements in order to determine whether the programs and/or process are effective, adequately implemented, and leading to improvement in work processes and programs.

This FY10 ES&H Self-Assessment Plan adopts a tailored, risk-based approach to assessing safety program effectiveness. Division management has identified assessment areas based on the hazards having potential impact on the safety of employees, protection of environment, and/or continuity of operations.

Multiple focus area self-assessment reports will be produced, rather than a single annual report, in this new system.

2.0   FY10 Self-Assessment Focus Areas

The CS Directorate has identified seven focus areas that will be evaluated as part of the ES&H self-assessment.

2.1   Selection of Focus Areas

Focus areas were selected based on a review of the FY09 Computing Sciences Self-Assessment Report including FY10 goals, review of CATS issues, and input from Division management.

1. **Computer Workstation Ergonomics.** Workstation ergonomics has been a health and safety focus area for Computing Sciences, with computer ergonomics accounting for more than half of injuries and first aid cases in the three-year period from FY07 through FY09. Accordingly, the Directorate has focused attention and resources on ergonomics. With office space needs impacting the CRD and NERSC Divisions, office move and alternate work location considerations must also be considered.

2. **Review and Update of the Computing Sciences ISM Plan.** An update of the ISM Plan is required annually. A need to include more detail on work locations, including specific building numbers, was identified as a goal in the FY09 Self-Assessment Report.

3. **Computer Room Fire Protection.** CS management has proposed including this focus area. Several computer room fire protection issues have relevance for Computing Sciences. , CS has taken responsibility for the LBNL institutional computer room training and for the training courses for access to the Oakland Scientific Facility (OSF) computer room.

4. **Work Authorizations and Training.** Having the proper and required training to perform work is one of the essential requirements for safety. For a majority of staff this is addressed with the JHA and EHS training. CS has two Activity Hazard

Documents under development which will include training requirements. In addition, CS uses subcontractor Job Hazards Analysis for non-construction work, and safety checklists for construction work, to assure work is performed safely. One goal identified in the FY09 Self-Assessment Plan was to post the SJHA forms for the facility contracted management personnel to the NERSC twiki or the SJHA eRoom.

5. **Walkthroughs.** CS management suggested that the walkthrough program be included in the Self-Assessment.

6. **Building Emergency Team training and Development of Building Emergency Plans.** CS has agreed to participate in development of Building Emergency Plans for the Building 50 Complex and for B943. The EHS Security and Emergency Operations Group is sponsoring this initiative, which will satisfy an OSHA requirement. In conjunction with this activity, CS will review Building Emergency Teams and trainings for both areas.

7. **Environmental Management Review.** Two goals identified in the FY09 Self-Assessment Report were pursuit of OSF computer room energy reduction efforts, as appropriate, and evaluation of use of paper with greater recycled content for use in printers. This review could include review of supplies and equipment in general for environmental sustainability. Environmental management is also a Lab priority, with the Carbon Cycle 2.0 initiative.

2.2 Assessment Categories

2.2.1 Compliance with Institutional Requirements

Computing Science's self-assessments include evaluation of compliance with institutional requirements, including:
> PUB-3140, *Integrated Environment, Safety, & Health Management Plan;*
> LBNL/PUB-3000, *Health and Safety Manual;*
> the *LBNL Chemical Hygiene and Safety Plan*

2.2.2 Compliance with Established Divisional Requirements

Where applicable, the Computing Sciences Integrated Safety Management Plan provides the basis for self-assessments of compliance with division-specific requirements.

2.3 Scope

1. **Computer Workstation Ergonomics**
   a. Workstation ergonomic evaluations
   b. Online ergonomic evaluations
   c. Ergo Advocates
   d. Requirements for on-site work, versus work from remote locations
   e. Office moves/consolidations
   f. Workstation sharing

2. **Review and Update of the Computing Sciences ISM Plan**

    a. Annual requirement
    b. FY09 Self-Assessment Goal

3. **Computer Room Fire Protection**

    a. OSF Computer Room Training
    b. Institutional Computer Room Training
    c. Fire suppression systems
    d. Battery issues

4. **Work Authorizations and Training**

    a. JHA completion
    b. JHA effectiveness review
    c. Training appropriate for work

5. **Walkthroughs**

    a. Supervisor walkthroughs
    b. Technical area walkthroughs

6. **Building Emergency Team Training and Development of Building Emergency Plans**

    a. BET full staffing for all areas
    b. BET training
    c. Emergency Plans
    d. Radio call group clarification of roles, training, issuance of radios
    e. Emergency scenario drills

7. **Environmental Management Review**

    a. FY09 Self-Assessment Goals: computer room energy reduction, recycled paper
    b. Additional areas for use of recycled content supplies
    c. Carbon Cycle 2.0 initiative

3.0   Assessment Frequency

Computing Sciences assessments will be completed annually. The assessment schedule may be modified based on findings or other factors. The initial assessment completion dates are provided for each focus area.

3.1   Schedule of focus area assessment completion dates

1	Computer Workstation Ergonomics	April 23, 2010
2	Review and Update of the Computing Sciences ISM Plan	April 23, 2010
3	Computer Room Fire Protection	April 23, 2010
4	Work Authorizations and Training	August 13, 2010
5	Walkthroughs	August 13, 2010
6	Building Emergency Team Training and Development of Building Emergency Plans	October 15, 2010
7	Environmental Management Review	October 15, 2010

Attachment 1: Self-Assessment Methodology The CS Directorate will use the following methodology as a guide for performing the self assessments. The methodology may be modified as necessary based on conditions and developments at the time of the assessments.

1. Computer Workstation Ergonomics

   A. Person(s) conducting the self-assessment: Division Safety Coordinator (DSC), with assistance from supervisors and management as necessary
   B. Techniques to be used during the self-assessment.
      1) Review of EHS databases:
         (a) Training Database
         (b) EHS Ergo Database
         (c) Remedy online ergonomic self-assessment database
      2) Interview employees and supervisors, with focus on those with ergo issues.
      3) Walkaround inspections
      4) Review of accident records
      5) Review of effectiveness of ergonomic interventions and mitigations
      6) Review of timeliness of ergonomic interventions and mitigations

2. Review the update of the Computing Sciences ISM Plan

   A. Person(s) conducting the self-assessment: DSC and Division management
   B. Techniques to be used during the self-assessment.
      1) Review of the FY10 CS ISM Plan
      2) Review of FY09 Self Assessment and validation report
      3) Review PUB-3000 change log
      4) Review PUB-3140, the institutional ISM plan
      5) Review the effectiveness of the CS ISM Plan

3. Computer Room Fire Protection

   A. Person(s) conducting the self-assessment: DSC and Division management
   B. Techniques to be used during the self-assessment.
      1) Interview Facility managers, LBNL Fire Marshal, Facilities support personnel
      2) Review relevant CATS items
      3) Review relevant ORPS case(s)
      4) Validate fire protection matrices, scheduled maintenance

4. Work Authorizations and Training

   A. Person(s) conducting the self-assessment: DSC and EHS JHA Team
   B. Techniques to be used during the self-assessment:

      1) Incorporate EHS JHA Team validations

      2) Incorporate any EHS SJHA reviews
      3) Review construction subcontractor Safety Checklists
      4) Investigate higher-hazard areas

5. Walkthroughs

    A. Person(s) conducting the self-assessment: Supervisors, Division management and DSC
    B. Techniques to be used during the self-assessment:
      1) CS Walkthrough forms
      2) Focus walkthroughs on: technical areas, office moves, shared workstations, new staff and guests, summer hires
      3) Review supervisor understanding and proficiency of walkthroughs
      4) Follow up later, to assess effectiveness

6. Building Emergency Team Training and Development of Building Emergency Plans

    A. Person(s) conducting the self-assessment: DSC, Division management, and EHS Emergency Operations staff
    B. Techniques to be used during the self-assessment:
      1) Validate BET knowledge of roles and responsibilities
      2) Review Building Emergency Plans
      3) Assess effectiveness of radio checks, trainings, and any tabletop or live scenario drills

7. Environmental Management Review

    A. Person(s) conducting the self-assessment: DSC, Division management, and EHS Emergency Operations staff
    B. Techniques to be used during the self-assessment:
      1) Review Divisional policies and compare with institutional or other polices
      2) Review effectiveness of Divisional resource conservation policies
      3) Seek quantitative validation of any conservation activities
      4) Solicit user feedback on initiatives
      5) Benchmark with others on computer room energy monitoring

Attachment 2: Lines of Inquiry Proposed lines of inquiry for the self-assessment focus areas are provided below. These proposed lines of inquiry may be modified as necessary.

1. Computer Workstation Ergonomics

   a) Determine whether ergonomic training and refresher training has been completed promptly. Determine whether evaluations have been completed promptly
   b) Review online ergonomic assessments and determine whether system-generated messages have been effective.
   c) Check with employees and supervisors to see if the system-generated emails were helpful or intrusive.
   d) Follow up on ergonomic discomfort cases to see if mitigations were effective
   e) Review any ergo injury investigation reports. Were the reports thorough, timely, and did injured parties receive needed help?

2. Review and update of the Computing Sciences ISM Plan

   a) Is ISM Plan updated annually?
   b) Do updates address any changes in work or safety structure?
   c) Do updates incorporate goals from FY09 Self-Assessment?
   d) Do updates incorporate institutional changes?

3. Computer Room Fire Protection

   a) Is computer room fire protection process understood by users?
   b) Is the fire protection system maintained in accordance with institutional policy?
   c) Do users comply with policies?
   d) Are safety policies communicated to users?
   e) Are changes or updates in policy communicated to users?
   f) Incorporate walkthrough observations of activities in computer rooms

4. Work Authorizations and Training including updating work groups as necessary, and updating our internal trainings like the OSF trainings

   a) Did EHS JHA validation find any issues?
   b) Were any issues addressed?
   c) Do JHAs incorporate changes in LBNL policy for example LOTO changes?
   d) Do JHAs incorporate changes in individual job responsibilities?
   e) Are JHA work groups updated as necessary when work changes?
   f) Are SJHA reports adequate?
   g) Do requesters understand the SJHA process and communicate it to their vendors?

5. Walkthroughs

   a) Are walkthroughs performed as specified in the ISM Plan?

b) Review walkthrough records. Are any trends identified? Are issues identified and addressed?
c) Review relevant lessons learned and determine if applicable lessons have been incorporated into work performed
d) Are ergonomic issues included in walkthroughs?
e) Are technical areas reviewed?
f) Are required placards outside technical areas up-to-date?
g) Are restrictions on placards adhered to by users?
h) Are users aware of hazard, restrictions, and contact information on placards?

6. Building Emergency Team Training and Development of Building Emergency Plans

a) Are the BETs adequately staffed?
b) Are BET members aware of their tasks?
c) Have BETs met and trained together?
d) Are BET members supplied with hardhats, vests, and flashlights?
e) Are radio users trained and proficient in radio use?
f) Do radio users participate in scheduled radio drills and any events?
g) Is required EHS BET training, fire extinguisher training, and first aid training complete?
h) Have Building Emergency Plans been created?
i) Have tabletop exercises or drills been performed?
j) Are BET members aware of alternate routes to exit the building in the event of an emergency? Including alternate assembly areas, where applicable
k) Are BET members aware of the Building 50-complex individual evacuation sections?

7. Environmental Management Review

a) Are computer room energy monitors effective?
b) Are energy efficiency practices and design incorporated into new building design?
c) Are purchasing decisions made with energy and sustainability in mind?
d) Are recycled-content supplies purchased when they are available and practical?
e) Are Division purchasers aware of policies?